RECEIVED
CENTRAL FAX CENTER
FEB 0 1 2007

IN THE CLAIMS:

Please amend the claims as follows:

1. (original) A diffractive light device (DLD) comprising:

a substrate;

a force plate disposed on said substrate, said force plate configured to produce an electrostatic force in response to an applied voltage;

a pixel plate disposed adjacent to said force plate, wherein a position of said pixel plate is partially set by a flexure coupled to said pixel plate; and

a temperature sensor thermally coupled to said DLD, wherein said temperature sensor is configured to produce a temperature compensated voltage in response to a thermal measurement performed by said temperature sensor.

2. (original) The DLD of claim 1, further comprising an offset voltage generator, wherein said offset voltage generator is configured to generate a temperature compensated offset voltage based on said thermal measurement.

3. (original) The DLD of claim 2, wherein said temperature compensated offset voltage is configured to compensate for a change in spring force exerted on said pixel plate by said flexure at a measured temperature.

4. (original) The DLD of claim 2, wherein said offset voltage generator comprises:

a buffer amplifier;

a low pass filter electrically coupled to said buffer amplifier; and

a scaler/offset amplifier electrically coupled to said low pass filter.

5. (original) The DLD of claim 2, wherein said offset voltage generator comprises:

a signal digitizer configured to digitize said thermal measurement;

a system controller communicatively coupled to said signal digitizer; and

a data storage device communicatively coupled to said system controller, wherein said data storage device contains a plurality of offset voltage values associated with said digitized thermal measurement.

6. (currently amended) The DLD of claim 2, wherein said offset voltage generator comprises:

a signal digitizer configured to digitize said thermal measurement;

a system controller communicatively coupled to said digitizer, said system controller configured to combine said digitized thermal measurement to [[a]] <u>an</u> uncompensated digital color count; and

a digital to analog converter communicatively coupled to said system controller, wherein said digital to analog converter is configured to convert said combined digital signal into a thermally compensated analog voltage.

7. (original) The DLD of claim 2, further comprising a variable voltage source communicatively coupled to said offset voltage generator, wherein said variable

voltage source is configured to generate a temperature compensated offset voltage in response to a command signal received from said offset voltage generator.

8. (original) The DLD of claim 2, further comprising a summing circuit, wherein said summing circuit is configured to combine said temperature compensated offset voltage with a color voltage bias to produce said temperature compensated voltage.

9. (original) The DLD of claim 8, wherein said color voltage bias comprises a non-compensated voltage bias.

10. (original) The DLD of claim 1, wherein said temperature sensor comprises one of a thermal sense resistor or a diode bandgap.

11. (original) The DLD of claim 10, wherein said temperature sensor is configured to measure an average temperature of an array of DLDs.

12. (original) A micro-electro mechanical system (MEMS) comprising:

a substrate;

a pixel plate coupled to said substrate;

a force plate disposed on said substrate adjacent to said pixel plate, wherein said force plate is configured to exert an electrostatic force on said pixel plate; and

a temperature sensor thermally coupled to said MEMS;

wherein said MEMS is configured to adjust said electrostatic force in response to a temperature measurement performed by said temperature sensor.

13. (original) The MEMS of claim 12, further comprising:

a support post extruding from said substrate; and

a flexure coupling said pixel plate to said support post, wherein said flexure is configured to exert a spring force on said pixel plate opposing said electrostatic force;

said spring force predictably varying with a variation in temperature.

14. (currently amended) The MEMS of claim 13, wherein said MEMS is further configured to vary said electrostatic force ~~generating voltage~~ to compensate for a variation in spring force provided by said flexure at a measured temperature.

15. (original) The MEMS of claim 13, further comprising an offset voltage generator, wherein said offset voltage generator is configured to vary said electrostatic force based on said temperature measurement.

16. (original) The MEMS of claim 15, wherein said temperature compensated offset voltage generator is configured to produce an offset voltage to compensate for said variation in spring force provided by said flexure.

17. (original) The MEMS of claim 16, wherein said offset voltage generator comprises:

a buffer amplifier;

a low pass filter electrically coupled to said buffer amplifier; and

a scaler/offset amplifier electrically coupled to said low pass filter.

18. (original) The MEMS of claim 15, wherein said offset voltage generator comprises:

a signal digitizer configured to digitize said temperature measurement;

a system controller communicatively coupled to said signal digitizer; and

a data storage device communicatively coupled to said system controller, wherein said data storage device contains a plurality of offset voltage values associated with said digitized temperature measurement.

19. (original) The MEMS of claim 15, wherein said offset voltage generator comprises

a signal digitizer configured to digitize said thermal measurement;

a system controller communicatively coupled to said digitizer, said system controller configured to combine said digitized thermal measurement to a uncompensated digital color count; and

a digital to analog converter communicatively coupled to said system controller, wherein said digital to analog converter is configured to convert said combined digital signal into a thermally compensated analog voltage.

20. (original) The MEMS of claim 15, further comprising a variable voltage source communicatively coupled to said offset voltage generator, wherein said variable voltage source is configured to generate a temperature compensated offset voltage in response to a command signal received from said offset voltage generator.

21. (original) The MEMS of claim 15, further comprising a summing circuit, wherein said summing circuit is configured to combine said temperature compensated offset voltage with a color voltage bias to produce said force generating voltage.

22. (original) The MEMS of claim 21, wherein said color voltage bias comprises a non-compensated voltage bias.

23. (original) The MEMS of claim 12, wherein said temperature sensor comprises one of a thermal sense resistor or a diode bandgap.

24. (original) An image display device comprising:

a system controller;

a variable voltage source communicatively coupled to said system controller; and

an array of DLDs communicatively coupled to said variable voltage source, each DLD of said DLD array including a substrate, a force plate disposed on said substrate, said force plate configured to produce an electrostatic force in response to a voltage applied by said voltage source, a pixel plate disposed adjacent to said force plate, wherein a position of said pixel plate is partially determined by a flexure coupled to said pixel plate, and a temperature sensor thermally coupled to said DLD, wherein said image display device is configured to vary said electrostatic force in response to a thermal measurement performed by said temperature sensor.

25. (original) The image display device of claim 24, wherein said image display device is configured to vary said electrostatic force by varying said temperature

compensated offset voltage to compensate for a change in spring force exerted on said pixel plate by said flexure at a measured temperature.

26. (original) The image display device of claim 24, further comprising an offset voltage generator configured to generate said temperature compensated offset voltage.

27. (original) The image display device of claim 26, wherein said offset voltage generator comprises:

a buffer amplifier;

a low pass filter electrically coupled to said buffer amplifier; and

a scaler/offset amplifier electrically coupled to said low pass filter.

28. (original) The image display device of claim 26, wherein said offset voltage generator comprises:

a signal digitizer communicatively coupled to said system controller, said signal digitizer being configured to digitize said thermal measurement; and

a data storage device communicatively coupled to said system controller, wherein said data storage device contains a plurality of offset voltage values associated with said digitized thermal measurement.

29. (original) The image display device of claim 26, wherein said offset voltage generator comprises:

a signal digitizer configured to digitize said thermal measurement;

a system controller communicatively coupled to said digitizer, said system controller configured to combine said digitized thermal measurement to a uncompensated digital color count; and

a digital to analog converter communicatively coupled to said system controller, wherein said digital to analog converter is configured to convert said combined digital signal into a thermally compensated analog voltage.

30. (original) The image display device of claim 24, wherein said temperature sensor is configured to measure an average temperature of said array of DLDs.

31. (original) A diffractive light device (DLD) comprising:

a substrate;

a means for producing an electrostatic force disposed on said substrate, wherein said electrostatic force is produced in response to an applied voltage;

a means for diffracting light disposed adjacent to said electrostatic force producing means, wherein a position of said light diffracting means is influenced by a means for flexing coupled to said means for diffracting light; and

a means for sensing temperature thermally coupled to said DLD, wherein said means for sensing temperature is configured to produce a temperature compensated voltage on said means for producing an electrostatic force in response to a thermal measurement.

32. (original) The DLD of claim 31, further comprising an offset voltage generator, wherein said offset voltage generator is configured to generate a temperature compensated offset voltage based on said thermal measurement.

33. (original) The DLD of claim 32, wherein said temperature compensated offset voltage is configured to compensate for a change in spring force exerted on said means for diffracting light by said means for flexing at a measured temperature.

34. (original) The DLD of claim 32, wherein said offset voltage generator comprises:

a buffer amplifier;

a low pass filter electrically coupled to said buffer amplifier; and

a scaler/offset amplifier electrically coupled to said low pass filter.

35. (original) The DLD of claim 32, wherein said offset voltage generator comprises:

a means for digitizing said thermal measurement;

a means for controlling said DLD communicatively coupled to said signal digitizer; and

a means for storing data communicatively coupled to said controlling means, wherein said storage means contains a plurality of offset voltage values associated with said digitized thermal measurement.

36. (original) The DLD of claim 35, further comprising a means for generating a variable voltage communicatively coupled to said controlling means, wherein said variable voltage generating means is configured to generate a temperature compensated offset voltage in response to a command signal received from said controlling means.

37. (original) The DLD of claim 31, further comprising a means for summing voltages, wherein said means for summing is configured to combine said temperature compensated offset voltage with a color voltage bias to produce said temperature compensated voltage.

38. (original) The DLD of claim 37, wherein said color voltage bias comprises a non-compensated voltage bias.

39. (original) The DLD of claim 31, wherein said temperature sensing means comprises one of a thermal sense resistor or a diode bandgap.

40. (original) A method of compensating for thermal effects in a DLD comprising:

measuring a temperature of said DLD;

generating a temperature compensated offset voltage associated with an effect said temperature will have on said DLD; and

producing a temperature compensated voltage on said DLD using said temperature compensated offset voltage, wherein applying said temperature compensated voltage to said DLD compensates for said thermal effects.

41. (original) The method of claim 40, wherein said thermal effects comprise a change in spring force exerted by a flexure on a pixel plate.

42. (original) The method of claim 40, wherein said generating a temperature compensated offset voltage comprises:

generating a signal in response to said measurement; and

providing said signal to an offset voltage generator, wherein said offset voltage generator is configured to generate said temperature compensated offset voltage based on said signal.

43. (original) The method of claim 42, wherein said offset voltage generator comprises

a buffer amplifier;

a low pass filter electrically coupled to said buffer amplifier; and

a scaler/offset amplifier electrically coupled to said low pass filter.

44. (original) The method of claim 42, wherein said generating a temperature compensated offset voltage comprises:

digitizing said signal;

transmitting said digitized signal to a system controller;

associating said digitized signal to a corresponding temperature compensated offset voltage value stored in a memory storage device; and

commanding a variable voltage source to produce a voltage corresponding to said temperature compensated voltage value.

45. (original) The method of claim 42, wherein said generating a temperature compensated offset voltage comprises:

digitizing said signal;

transmitting said digitized signal to a system controller;

combining said digitized signal to a digital color count; and

converting said combined signal to an analog voltage.

46. (original) The method of claim 40, wherein said measuring a temperature of said DLD comprises:

thermally coupling a thermal sensor to said DLD; and

sensing a temperature of said DLD.

47. (original) The method of claim 46, wherein said thermal sensor comprises one of a thermal sensor resistor or a diode bandgap.

48. (original) The method of claim 47, wherein said thermal sensor measures an average temperature of an array of DLDs.

49. (original) The method of claim 40, wherein said producing a temperature compensated voltage on said DLD comprises summing said temperature compensated offset voltage with an uncompensated voltage bias.

50. (original) A processor readable medium having instructions thereon for:

sensing a temperature change of a DLD; and

modifying a voltage provided to said DLD in response to said sensed temperature change.

51. (original) The processor readable medium of claim 50, wherein said modifying a voltage provided to said DLD comprises:

receiving a signal associated with said sensed temperature change; and

generating a temperature compensated offset voltage based on said signal.

52. (original) The processor readable medium of claim 51, wherein said processor readable medium further has instructions thereon for:

digitizing said signal;

providing said digitized signal to a data storage device; and

receiving a temperature compensated offset voltage value from said data storage device.

53. (original) The processor readable medium of claim 52, wherein said data storage device comprises a data lookup table.

54. (original) The processor readable medium of claim 51, wherein said processor readable medium further has instructions thereon for:

digitizing said signal;

combining said digitized signal with a digital color count; and

converting said combined signal to an analog voltage.

55. (original) A micro-electromechanical system (MEMS) comprising:

a flexure;

a voltage generator; and

a temperature sensor thermally coupled to said MEMS, wherein said voltage generator is configured to produce a temperature compensated voltage in response to a thermal measurement performed by said temperature sensor.

56. (original) The MEMS of claim 55, wherein said temperature compensated voltage is configured to compensate for a change in spring force exerted by said flexure at a measured temperature.

57. (original) The MEMS of claim 55, wherein said voltage generator comprises:

a buffer amplifier;

a low pass filter electrically coupled to said buffer amplifier; and

a scaler/offset amplifier electrically coupled to said low pass filter.

58. (original) The MEMS of claim 55, wherein said voltage generator comprises:

a signal digitizer configured to digitize said thermal measurement;

a system controller communicatively coupled to said signal digitizer; and

a data storage device communicatively coupled to said system controller, wherein said data storage device contains a plurality of offset voltage values associated with said digitized thermal measurement.

59. (original) The MEMS of claim 55, wherein said voltage generator comprises:

a signal digitizer configured to digitize said thermal measurement;

a system controller communicatively coupled to said digitizer, said system controller configured to combine said digitized thermal measurement to a uncompensated control voltage; and

a digital to analog converter communicatively coupled to said system controller, wherein said digital to analog converter is configured to convert said combined digital signal to a thermally compensated analog voltage.

60. (original) The MEMS of claim 55, further comprising a variable voltage source communicatively coupled to said voltage generator, wherein said variable voltage source is configured to generate a temperature compensated offset voltage in response to a command signal received from said voltage generator.

61. (original) The MEMS of claim 55, wherein said temperature sensor comprises one of a thermal sense resistor or a diode bandgap.

62. (original) The MEMS of claim 61, wherein said temperature sensor is configured to measure an average temperature of an array of MEMS.